

APPLICANT(S): MERON ET AL
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AMENDMENTS TO THE CLAIMS

Please amend the claims as follows and cancel claims marked as cancelled with prejudice.

1. (Currently Amended) A system for determining in vivo the presence and/or concentration of a biological and/or chemical substance in a ~~body-lumen~~ gastrointestinal tract comprising:
an autonomous swallowable capsule ~~comprising~~ comprising:
a light source;
a viewing window through which the light source illuminates the gastrointestinal tract;
a camera system which detects an image of the gastrointestinal tract via the viewing window;
an optical system which focuses the image onto the camera system;
a reactant immobilized on the viewing window which when in the presence of the substance reacts with the substance resulting in an optical change in the image detected by the camera system; and ~~at least a solid support having immobilized thereon at least one reactant which when in the presence of the substance reacts with the substance resulting in an optical change;~~
~~a detecting unit, in communication with the support; and~~
a battery within said the autonomous swallowable capsule to provide power to said ~~detecting unit~~ the camera system and the light source.
2. (Canceled)
3. (Canceled)
4. (Currently Amended) A system according to claim 1 wherein the ~~support viewing window~~ is a glass support-viewing window.
5. (Currently Amended) A system according to claim 1 wherein the ~~support viewing window~~ is a plastic support-viewing window.
6. (Canceled)
7. (Currently Amended) A system according to claim 1 wherein the reactant is immobilized onto the ~~support viewing window~~ via a bridging group.

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8. (Original) A system according to claim 1 wherein the reactant is a chemical compound.
9. (Original) A system according to claim 1 wherein the reactant is a biological compound.
10. (Original) A system according to claim 1 wherein the reactant is an enzyme.
11. (Original) A system according to claim 1 wherein the reactant is an antibody.
12. (Canceled)
13. (Canceled)
14. (Currently Amended) A system according to claim 1, ~~the detecting unit imaging a~~ wherein the camera system is to image the reaction between the reactant and the substance.
15. (Canceled)
16. (Currently Amended) A system according to claim ~~[[50]]~~ 1 wherein the ~~support reactant~~ is transparent to illumination emitted from the illuminating element light source.
17. (Canceled)
18. (Currently Amended) A system according to claim 1 wherein the ~~detecting unit the~~ cameral system detects optical density.
19. (Currently Amended) A system according to claim 1 wherein the ~~detecting unit~~ camera system detects color changes.
20. (Currently Amended) A system according to claim 1 further comprising a monitoring unit ~~in communication with the support, said monitoring unit locating the support in the body lumen.~~ which locates the autonomous swallowable capsule within the gastrointestinal tract.
21. (Currently Amended) A system according to claim 20 wherein ~~said the~~ autonomous swallowable capsule further comprises a transmitting unit ~~in communication with the support, which transmits an output of the camera system.~~
22. (Currently Amended) A system according to claim 21 wherein the monitoring unit comprises a reception system ~~receiving~~ which receives the transmitted output from ~~said the~~ transmitting unit thereby locating the ~~support~~ autonomous swallowable capsule along a pre-prepared map of the lumen.

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23. (Withdrawn) A method for determining in vivo the presence and/or concentration of a biological and/or chemical substance in a body lumen comprising the steps of:
inserting into a body lumen a solid support, said support having immobilized thereon at least one reactant which, when in the presence of the substance, reacts with the substance resulting in an optical change and said support being in communication with a detecting unit; and
receiving information from the detecting unit.
24. (Withdrawn) A method according to claim 23 wherein the support is attached to or is an integral part of a stent, needle or endoscope.
25. (Withdrawn) A method according to claim 23 wherein the support is attached to or is an integral part of a swallowable capsule.
26. (Withdrawn) A method according to claim 23 wherein the support is a glass support.
27. (Withdrawn) A method according to claim 23 wherein the support is a plastic support.
28. (Withdrawn) A method according to claim 27 wherein the plastic is isoplast.
29. (Withdrawn) A method according to claim 23 wherein the reactant is immobilized onto the support via a bridging group.
30. (Withdrawn) A method according to claim 23 wherein the reactant is a chemical compound.
31. (Withdrawn) A method according to claim 23 wherein the reactant is a biological compound.
32. (Withdrawn) A method according to claim 23 wherein the reactant is an enzyme.
33. (Withdrawn) A method according to claim 23 wherein the reactant is an antibody.
34. (Withdrawn) A method according to claim 23 wherein the reactant is poly acrylic acid.
35. (Withdrawn) A method according to claim 23 wherein the reactant is polynethylmetacrylate having thrombin linked thereon.
36. (Withdrawn) A method according to claim 23 wherein the detecting unit is capable of imaging a reaction between the reactant and the substance.
37. (Withdrawn) A method according to claim 23 further comprising the step of utilizing illumination to illuminate the support.
38. (Withdrawn) A method according to claim 37 wherein the support is transparent to the illumination.

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39. (Withdrawn) A method according to claim 38 wherein the reactant is transparent to the illumination.
40. (Withdrawn) A method according to claim 23 wherein the detecting unit detects optical density.
41. (Withdrawn) A method according to claim 23 wherein the detecting unit detects color changes.
42. (Withdrawn) A method according to claim 23 further comprising the step of locating the support in the body lumen.
43. (Withdrawn) A method according to claim 42 wherein locating the support in the body lumen is done by a monitoring unit that is in communication with the support.
44. (Withdrawn) A method according to claim 43 wherein the monitoring unit comprises a reception system operable with a transmitting unit, said transmitting unit being in communication with the support and said reception system capable of receiving transmitted output from the transmitting unit thereby locating the support along a pre prepared map of the lumen.
45. (Canceled)
46. (Currently Amended) A system according to claim ~~[[22]]~~20 wherein said ~~the~~ monitoring unit is included within said ~~the~~ autonomous swallowable capsule.
47. (Withdrawn) A method according to claim 23 for the detection of substances in the gastrointestinal tract.
48. (Withdrawn) A method according to claim 47 for the detection of blood or blood components in the gastrointestinal tract.
49. (Canceled)
50. (Currently Amended) A system according to claim ~~[[15]]~~1 wherein the combination of the support ~~the viewing window~~ and the reactant is transparent to the illumination emitted from the ~~illuminating element~~ light source.